

AMENDMENT UNDER 37 CFR § 1.116
Serial No. 09/597,974

REMARKS

A total of 58 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed July 30, 2004, wherefore reconsideration of this application is requested.

Referring now to the text of the Office Action:

- claims 1-15, 19, 23, 27-28, 30, 32-33, 35-47, 50, 54 and 58 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent No. 6,222,848 (Hayward et al); and
- claims 16-18, 20-22, 24-26, 29, 31, 34, 48-49, 51-53, 55-57 and 59 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 6,222,848 (Hayward et al).

The Examiners claim rejections are believed to be traversed by the following discussion.

Statement under 35 USC § 103(c)

Pursuant to 35 USC § 103(c), United States Patent No. 6,222,848 (Hayward et al) is disqualified as prior art for the purposes of 35 U.S.C. § 103 on the ground that both United States Patent No. 6,222,848 (Hayward et al) and the present invention were commonly owned at the time the present invention was made. In that respect:

- United States Patent No. 6,222,848 (Hayward et al) is owned by Nortel Networks Limited by virtue of assignments recorded at Reel/Frame: 8938/0557; Corporate Name Change from Northern Telecom Limited to Nortel Networks Corporation recorded on December 23, 1999, Reel/Frame 10567/001 and Change of Name from Nortel Networks Corporation to Nortel Networks Limited recorded on August 30, 2000 Reel/Frame 011195/0706; and

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- The present application is owned by Nortel Networks Limited by virtue of assignments recorded at Reel/Frame: 011503/0540

Claim rejections under 35 USC § 102(e)

In support of the Examiner's rejections under 35 USC § 102(e), the Examiner asserts that "Hayward discloses connections that are established across SONET networks. However, in order to establish connections across SONET networks, certain conditions must be met to insure the integrity and validity of the connection. ... In this way, by establishing of transmissions across SONET networks, it is understood that signal validation as dictated by the elements of the SONET protocol; must be supported."

Applicant agrees that validation of Section, Line and Path-layer connections is inherent to the SONET standard. However, the portions of Hayward cited by the Examiner relate to either basic elements of a network (e.g. col 4, lines 41-44) and/or the insertion, extraction, buffering and assembling of data packets being transported through the SONET network (e.g. col. 4, line 66 – col 5, line 5; col 5, lines 61-62 etc.). The skilled artisan will immediately recognise that none of these passages are directed to connection validation, and thus add nothing to the Examiner's argument, which appears to rely entirely on elements imported by the Examiner from the Tektronics reference. It would therefore appear that the citation of Hayward is redundant, and that the Examiner's 35 USC § 102(e) rejection should properly be based entirely upon the Tektronics reference alone.

With specific regard to Hayward and the Tektronix reference, the Examiner states (at page 5 of the Detailed Action) that:

The prefixed SONET information and the SONET payloads in particular is inclusive of the PM information. While Hayward does not explicitly state this, it becomes clear when one examines the contents and composition of the SONET payload as disclosed in the SONET telecommunications standard. Figure 4 of page 5 discloses in particular the Synchronous Payload Envelope. The diagrams on page 5 further disclose aspects of the payloads, in particular the transport overhead. However, one of ordinary skill in the art would understand that the transport overhead itself, is still composed of

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subparts. This is revealed on page 7, "Section Overhead" and figure 7. Furthermore, one of ordinary skill in the art, would then realize that the section overhead, which is part of the transport overhead, which is a part of the SONET payload, itself supports specific functions. In this case, it is clearly revealed by the nature of the SONET standard, that the section overhead supports Performance Monitoring signal or information.

With respect, the Examiner's interpretation of both Hayward and the SONET standard are incorrect.

In particular, the Examiner's attention is directed to page 4 of the Tektronics reference. The STS-1 frame structure is clearly illustrated in figures 1 and 2. Referring to paragraph 2 under the heading: **STS Frame Structure**:

As shown in figure 1, the first three columns of the STS-1 frame are for transport overhead. The three columns each contain nine bytes. Of these, nine bytes are for overhead for the Section Layer ... and 18 bytes of overhead for the Line Layer. The remaining 87 columns constitute the STS-1 Envelope Capacity.

In the SONET standard, data being transported by the STS-1 frame is mapped into the STS-1 Envelope Capacity using a Synchronous Payload Envelope (SPE). Various mapping schemes are discussed in the Tektronix reference starting at pages 12-17. As stated at the upper right of the page (under heading : **STS-1 Envelope Capacity and Synchronous Payload Envelope (SPE)**):

Figure 3 depicts the STS-1 SPE, which occupies the STS-1 Envelope Capacity. The STS-1 SPE consists of 783 bytes, and can be depicted as an 87 column by 9 row structure. Column 1 contains ... Path Overhead (POH). Two columns... are designated as 'fixed Stuff' columns. The ...remaining 84 columns are designated as the STS-1 Payload Capacity.

As stated on page 5 of the Tektronics reference (under heading : **STS-1 SPE in Interior of STS-1 Frames**): "The STS-1 SPE may begin anywhere in the STS-1 Envelope Capacity (See figure 4)."

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Based on the foregoing, it will be readily apparent that the STS-1 frame is a 90 column by 9 row structure, made up of three columns of transport overhead and 87 columns of Envelope Capacity. In the SONET standard, the SONET payload is mapped into the (87 column wide) Envelope Capacity using an SPE, but the starting point of the SPE within the envelope capacity is undefined – that is, the SPE can "float" within the STS-1 frame Envelope Capacity:

The person of ordinary skill in the art will recognise that that the transport overhead and the frame payload are entirely different, and cannot be either grouped together or referred to interchangeably. Transport overhead is part of the SONET frame header (the first three columns of the STS-1 frame), and is used for management and validation of Section and Line-layer connections. Payload Capacity is used to transport customer data. There is no similarity between overhead and payload, and they are handled very differently within each node of a SONET network. As such, the person of ordinary skill in the art will recognize that the Examiner's assertion that " the transport overhead, which is a part of the SONET payload ... " is plainly incorrect in view of the SONET standard. Transport overhead does not form part of the SONET payload.

This view is reinforced by Hayward, thus:

"Ethernet data packets are included in SONET payloads by prefixing SONET header information and appending SONET trailer information to the data packets. At the destination transport node the Ethernet data packets are removed from one of more SONET payloads, re-assembled if the were spread out over more than one SONET payload, and the transmitted to the destination device" (Col 4, line 66 - Col. 5, line 5)

This brief summary is expanded upon in the subsequent paragraphs. In particular, the process of including data packets into SONET frames is described by Hayward as follows:

"Assuming that the packet is sized to fit in one SONET payload, the SONET transmitter appends SONET path overhead information to the packet, then transmits the packet to a SONET transport node channel add/drop 258 and 262 where SONET section and line overhead information is appended to the packet." (Col 6, lines 34-49, and FIG. 3)

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The process of removing data packets from received SONET frames is described as follows:

"the Packet receiver 210 detects the beginning and end of each SONET frame and removes data packets or parts thereof by removing SONET header and trailer path overhead information leaving only the encapsulated packets. A data packet can be spread over a number of SONET payload frames. The packet receiver 210 also detects the start and end of each data packet. A buffer 246 is used to store parts of a data packet received from different SONET payloads until the data packet is re-assembled in buffer 246 and can be transmitted in its entirety to packet distributor 214." (col 5, lines 54-64 and FIG. 3).

It will be seen that, in the system of Hayward, all of the SONET header information is removed from a received frame at each intermediate (or destination) transport node. While the data packet is "transmitted in its entirety to packet distributor 214", the SONET header information is simply removed. It is thus clear that Hayward clearly distinguishes between transport overhead and payload, and handles them very differently.

In view of the foregoing, Applicant reaffirms its position that the PM information of the present invention may be interpreted (albeit incorrectly) as being equivalent to either Hayward's SONET overhead or Ethernet data packets, but not both at the same time. Accordingly, it is submitted that it is improper to equate the PM information of the present invention first to Hayward's SONET overhead in order to read Hayward onto clause (a) of claim 1; and then to Hayward's Ethernet data packets in order to read Hayward onto clauses (b) and (c) of claim 1.

Accordingly, it is respectfully submitted that the Examiner's rejection of claims 1-15-19, 23, 27, 30, 32-33, 35-47, 50, 54 and 58 is based on an improper application of the prior art, and is therefore improper.

Claim rejections under 35 USC § 103(a)

It is respectfully submitted that the Examiner's rejection of claims 16-18, 20-22, 24-26, 29, 31, 34, 48-49, 51-53, 55-57 and 59 in view of Hayward et al is overcome by the fact that the Hayward et al reference is disqualified as prior art under 35 USC § 103(c), as stated above.

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In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,



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